

APPENDIX

The Claims On Appeal

3. The apparatus of Claim 34 36, wherein an upstream feeder is flowingly connected to cause and to control input feed of the mixable materials.

36. (New) An extruder mixer for plastified flowable material comprising:
an elongated rotatable screw having an elongational mixing zone adapted to mix material flowing therethrough, the mixing zone having:

a substantially axially disposed inlet channel in fluid communication with a substantially axially disposed outlet channel;

both the inlet channel and the outlet channel being bounded on one side by a substantially axially disposed blocking wall which substantially prevents material from flowing therepast;

a substantially axially disposed first intermediate channel disposed between the inlet and the outlet channels and in fluid communication therewith;

a substantially axially disposed first cross-axial pump disposed between the inlet channel and the first intermediate channel, the first pump drawing the material from the inlet channel into the first intermediate channel; and

a substantially axially disposed second cross-axial pump disposed between the first intermediate channel and the outlet channel, the second pump drawing the material out of the first intermediate channel into the outlet channel to deliver the plastified material out of the mixing zone.

37. The extruder mixer according to claim 36, wherein the inlet channel is open at a downstream end for allowing material to flow directly out of the inlet channel to outside of the mixing zone.

38. The extruder mixer according to claim 36, wherein the dimensions of the channels are the same.

39. The extruder mixer according to claim 36, wherein the dimensions of the channels are different from each other.

40. The extruder mixer according to claim 36, further comprising:
at least one pair of an additional substantially axially disposed intermediate channel and cross-axial pump disposed after the second pump and in fluid communication therewith, the additional pump being disposed after the additional channel and drawing material from the additional channel into the succeeding channel and pump pair.

41. The extruder mixer according to claim 36, wherein the inlet channel blocking wall and the outlet channel blocking wall are the same.

42. The extruder mixer according to claim 36, further comprising a screw channel disposed on the rotatable screw before the input channel of the mixing zone and flowingly connected to control the flow rate of the material into the mixing zone.

43. The extruder mixer according to claim 36, further comprising an output flight flowingly connected to at least one of the blocking walls.

44. The extruder mixer according to claim 36, wherein the dimensions of the cross-axial pumps are the same.

45. The extruder mixer according to claim 36, wherein the dimensions of the cross-axial pumps are different from each other.

46. The extruder mixer according to claim 36, wherein the channels are oriented substantially parallel to the longitudinal axis of the screw.

48. The extruder mixer according to claim 36, further comprising a resistance device disposed on the screw after the mixing zone for forcing the plastic material back into said the output channel.

49. The extruder mixer according to claim 36, wherein the intermediate channel is bounded by a flight on an upstream end for preventing material from flowing directly into the intermediate channel from outside of the mixing zone.

50. The extruder mixer according to claim 36, wherein the outlet channel is bounded by a flight on an upstream end for preventing material from flowing directly into the outlet channel from outside of the mixing zone.

51. The extruder mixer according to claim 36, wherein the intermediate channel is open at an upstream end for allowing material to flow directly into the intermediate channel from outside of the mixing zone.

52. The extruder mixer according to claim 40, wherein at least one of the at least one additional channel is open at an upstream end for allowing material to flow directly into the at least one additional channel from outside of the mixing zone.

53. The extruder mixer according to claim 36, wherein the intermediate channel is open at a downstream end for allowing material to flow directly out of the intermediate channel to outside of the mixing zone.

54. The extruder mixer according to claim 40, wherein at least one of the at least one additional channel is open at a downstream end for allowing material to flow directly out of the at least one additional channel to outside of the mixing zone.